### **Communication**

### **Hood Canal Bridge Project Team**

The ultimate goal of the Hood Canal Bridge team is to administer a world-class project to replace the Hood Canal Bridge. Meet one of the people who make it all happen.



**Weston Dalfrey,** *Materials Documentation Engineer,* Hood Canal Bridge Team

Weston Dalfrey joined the Washington State Department of Transportation in June of 1990. His career with WSDOT began as a Materials Tester. When Weson saw the opportunity to be the Materials Documentation Engineer for the Hood Canal Bridge Project, he took it. Throughout his career, he has not only worked in the field but also

with programs including CAICE (Computer Aided Civil Engineering) where he drafted and checked plan sheets. Weston spent several years working on different bridge projects, including the I-90 tunnel and I-5 bridges, before he began his venture with the Hood Canal Bridge Project. These diverse experiences during his career with WSDOT have prepared him for this challenging position.

In his off-time, Weston enjoys spending time with his family; including his wife of 14 years, Karen, his two sons, Keaton (12 years old) and Dawson (6 years old) and of course their family dog, Argus. Some of his favorite activities include: fishing with his sons, attending the Mariners Spring Training Camp and golfing with friends. This Texas Longhorns fan is currently taking night classes at University of Phoenix where he is working towards his Bachelor's degree in Business Administration.

*Project Responsibilities:* Documenting all materials (concrete, rebar, steel, aluminum, etc.) used and tested during Hood Canal Bridge east-half pontoon construction.

Questions? dalfrew@wsdot.wa.gov or (253) 305-6445

### **Next Month's Activities**

- Pour concrete to complete top of pontoon PA
- Start post-tensioning in pontoon PA
- · Move Todd Shipyard dry dock into position
- Complete bridge site work trestle removal
- Determine Washington State Ferry involvement in bridge closure alternate transportation options
- Present project information to community groups
- Finalize Hood Canal Bridge closure commitment plan
- · Install anchor construction web camera
- Process work packets for constructing anchors and retrofitting pontoons R, S and T

## **August Monthly Report...**

### **Pulling it all together**

Post-tensioning begins in August for pontoon PA. Concrete, reinforced by post-tensioning, allows it to carry a greater load or span a greater distance than ordinary reinforced concrete. Find out exactly what post-tensioning is and how it is done in next month's report.

### Hood Canal Bridge Retrofit and East-half Replacement Project

East-half Replacement Completion Goal: 2009 West-half Retrofit Completion Goal: 2010

### Q. Where is the bridge?

A. The Hood Canal Bridge is located between Kitsap and Jefferson counties at the northern mouth of the Hood Canal.

### Q. Why is it important?

A. It serves as a vital economic and social link between the greater Puget Sound and the Olympic Peninsula.

### Q. What is WSDOT doing?

A. The Washington State Department of Transportation is improving this lifeline by replacing the east-half floating portion of the bridge, replacing the east and west approach spans, replacing the east and west transition truss spans and updating the west-half electrical system. The project completion estimate is 2010.

## Q. What can drivers do to stay informed?

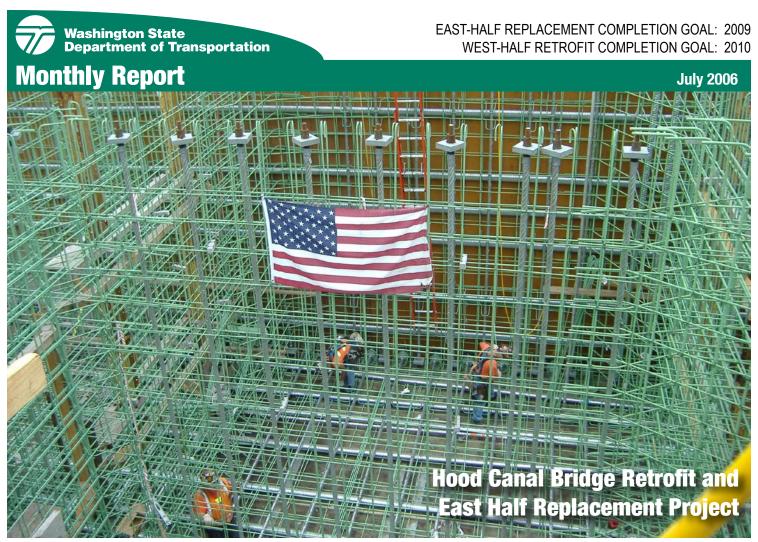
A. Sign up to receive the latest news regarding the Hood Canal Bridge Project and other related area transportation news in your e-mail inbox. Visit www.hoodcanalbridge.com to subscribe.

This report highlights updated Hood Canal Bridge Project information from **July 1–31, 2006**.

For more information about the Hood Canal Bridge Project visit the project web site, **www.hoodcanalbridge.com**, or contact project staff:

**Becky Hixson**, Communication Manager, (253) 305-6450, hixsonb@wsdot.wa.gov

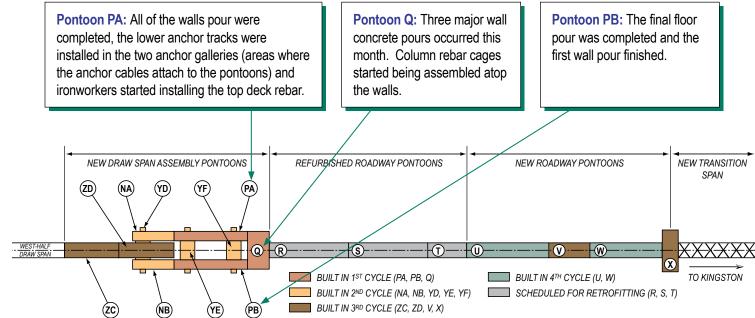
Eric Soderquist, Project Director, soderqe@wsdot.wa.gov



Ironworkers fly the American flag to designate the completion of wall rebar for cycle one pontoon construction. July 12, 2006

## **Project Delivery**

East-half pontoon construction is on schedule and 19 percent completed as of July 31. This month's highlights were:



Birds-eye View of New East-half

### **Project Delivery continued...**

Additional project work that supports the 2009 east-half bridge replacement began at the bridge site and Todd Shipyards.



## **Anchor Construction**

(1 percent complete):

Modifications begin on floating dry dock to prepare it for anchor construction. July 31, 2006



### Hood Canal Bridge Site Approach Span Replacement

(99 percent complete):

Crane removes temporary work trestle deck sections. July 19, 2006



## East- and West-half Material Fabrication

(79 percent complete):

Pontoon hatches are installed before the first concrete pour for the top deck of pontoon PA. July 24, 2006



# West-half Mechanical and Electrical Retrofitting (1 percent complete):

Electrician marks out locations for west-half leak detection system components. July 18, 2006

## **Accountability**



WSDOT engineer tests LVM concrete before the rest of the batch goes into the pontoon forms. July 26, 2006

### **Using the Right Concrete for the Job**

In all types of construction, whether at-home or highway projects, concrete is one of the most commonly used materials. Its high durability and strength makes it effective inside or outside. Each concrete mix is chosen specifically to promote timely construction, structure longevity and user safety.

The Hood Canal Bridge pontoon concrete is much stronger and more durable than the concrete poured in household driveways because it has to stand up under extreme conditions. Driveway concrete is developed to handle people walking on it, a few cars driving over it and Pacific Northwest rainfall. The Hood Canal Bridge concrete has to withstand wind, waves, salt corrosion, traffic and tides.

Finding the correct mix for each specific part of the bridge is very important to overall project quality. Each mix goes through a detailed design, evaluation and testing process. WSDOT defined the parameters of each type of concrete. The contractor, Kiewit-General (K-G), submitted mix designs meeting those requirements. WSDOT's Material Lab then reviewed each ingredient that is part of the mix and approved the mix designs based on test results showing the strength, permeability and workability of the concrete. WSDOT and K-G worked together to test different varieties of the mix designs to match the right mix with the construction method being used.

Several mixes specific to the Hood Canal Bridge include:

### **Concrete Class LVM**

WSDOT engineers created a specific mix for floating bridge pontoons when working on the Lacey V. Murrow (LVM), or I-90 floating bridge. Concrete Class LVM is a low permeable concrete designed to be submerged in the saltwater and to help the bridge withstand the severe marine environment. This concrete does not allow the saltwater to be absorbed into it; therefore, keeping rebar free from rust. Also, this concrete holds up against the heavy waves that pound into the pontoons.

### **Concrete Class 4000P**

This concrete is a gravel mix used for constructing anchors and columns. It was designed to be placed in small areas that are hard to get concrete into and to handle moderate stresses.

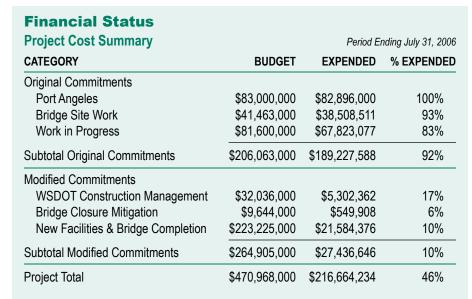
#### **Concrete Class 3500LW**

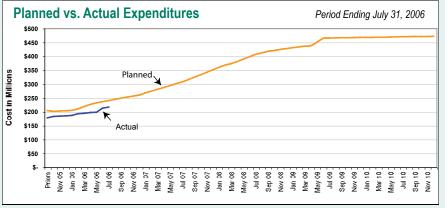
Concrete Class 3500LW is a light weight mix used for traffic barrier installation and floors inside the maintenance buildings on the bridge. It is designed to be used in areas that aren't subjected to a lot of stress. The light weight helps reduce the structure's weight, which in turn helps the Hood Canal Bridge float.

### **Concrete Class 4000D**

Travelers drive on this concrete every day when they cross the bridge. This roadway concrete is very durable and prevents salts and oils from soaking into the concrete and corroding the rebar.

The success of the Hood Canal Bridge Project is based on the right materials being used for all parts of the bridge. K-G and WSDOT are working together to ensure that the right concrete is being poured in each area. Drivers can be confident that the strength and durability of the concrete beneath them has been chosen to withstand the wind, waves, tides and currents the bridge experiences every day.





### **Performance Measures: Project Schedule**

Keeping to a schedule is very important to the overall success of the Hood Canal Bridge project. The following is a brief description of the current scheduling process.

### **Establish A Baseline Schedule**

On April 25, 2006 WSDOT accepted a baseline schedule from K-G for the Hood Canal Bridge Project.

### **Monitor Progress**

Monitoring of the schedule and issues that affect it is an on-going effort that includes:

- Review K-G's five-week schedule
- Attend K-G's weekly schedule and construction coordination meetings
- Record dates when milestones are accomplished
- Communicate schedule information with all WSDOT groups

### Monthly Analysis

- Compare actual accomplishment dates against the baseline schedule
- Evaluate most essential work items to determine how they affect the schedule
- Determine the percent completed and money spent for each work item

As the work continues, the Hood Canal Bridge team will evaluate progress and team performance by comparing actual accomplishments against projected completion dates.